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PELT-27349  
(PATENT)

**AMENDMENTS TO THE CLAIMS**

1           1. (Currently Amended) A serial communications link comprising:  
2                 a scrambler device for receiving a an original data bit stream, the scrambler  
3 device scrambles groups of data in the data bit stream to statistically balance the number of  
4 logic low and logic high bits in the groups of data and converting said original data bit stream  
5 into scrambled data; and  
6                 an ECC encoder device that receives the scrambled groups of data from the  
7 scrambler device and converts for converting said scrambled groups of data into ECC-  
8 encoded data.

1           2. (Original) The system as recited in Claim 1, further comprising:  
2                 a serializer for converting said ECC-encoded data into serialized data;  
3                 wherein the ECC-encoded data includes frame alignment information; and  
4                 the system further comprises a receiver for receiving said serialized data and  
5 converting the serialized data into data frames based upon the frame alignment information.

1           3. (Previously Amended) The system as recited in Claim 2, wherein the receiver  
2 comprises:  
3                 a frame-recoverer for converting said serialized data into data frames;  
4                 an ECC decoder for converting said data frames into ECC-decoded data and  
5 error indications; and  
6                 a descrambler for converting said ECC-decoded data into de-scrambled data.

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1           4. (Previously Presented) The system as recited in Claim 3, wherein said frame-  
2   recoverer uses said error indications in converting said serialized data into data frames.

1           5. (Original) The system as recited in Claim 1, wherein said ECC encoder applies an  
2   error correction code in converting said scrambled data into said ECC-encoded data.

1           6. (Currently Amended) A serial communications method, comprising the steps of:  
2           receiving ~~a an original~~ data bit stream at a scrambler device, said ~~original~~ data  
3   bit stream comprising data bits and other bits;  
4           converting said ~~original~~ data bit stream into scrambled data, by said scrambler  
5   device, prior to performing another data function on said ~~original~~ data bit stream, said  
6   scrambled data comprising groups of data bits having a statistically balanced number of logic  
7   low and logic high data bits in each group; and  
8           converting said scrambled data into ECC-encoded data.

1           7. (Original) The method as recited in Claim 6, further comprising the steps of:  
2           generating a serial stream of the ECC-encoded data; and  
3           transmitting said serial stream.

1           8. (Original) The method of Claim 7, wherein:  
2           the ECC-encoded data includes frame alignment information; and  
3           the method further comprises receiving said serialized data and converting  
4   said serialized data into data frames based upon said frame alignment information.

1           9. (Original) The method of Claim 7, further comprising:  
2           receiving said serialized data;

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- 3                    converting said serialized data into data frames;
- 4                    converting said data frames into ECC-decoded data and error indications; and
- 5                    converting said ECC-decoded data into de-scrambled data.

1            10. (Original) The method of Claim 9, wherein the step of converting the serialized  
2 data comprises converting the serialized data into data frames based upon said error  
3 indications.

1            11. - 33. (canceled)

1            34. (Currently Amended) A serial communication link comprising:  
2                    a scrambler device programed to convert a received bit stream into groups of  
3 K scrambled data bits so as to statistically balance the number of logic low and logic high bits  
4 in each group of K scrambled data bits, having data bits therein, into scrambled data; said  
5 received bit stream being without redundant bits and without being encoded prior to being  
6 scrambled ; and  
7                    an ECC encoder programmed to convert said scrambled data into ECC-  
8 encoded data.

1            35. (new) A serial communications link comprising:  
2                    a scrambler device for receiving a data bit stream having no previous encoding  
3 or byte reordering done to said data bit stream, the scrambler device scrambles groups of data  
4 in the data bit stream and converts said data bit stream into scrambled groups of data; and  
5                    an ECC encoder device that receives the scrambled groups of data from the  
6 scrambler device and converts said scrambled groups of data into ECC-encoded data.

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1        36. (new) A serial communications method, comprising the steps of:  
2                receiving a data bit stream at a scrambler device, said data bit stream  
3 comprising data bits and other bits that have not been previously encoded or byte reordered;  
4                converting said data bit stream into scrambled data, by said scrambler device,  
5 prior to performing another data function on said data bit stream; and  
6                converting said scrambled data into ECC-encoded data.

1        37. (new) A serial communication link comprising:  
2                a scrambler device programed to convert an unencoded received bit stream,  
3 into scrambled data; and  
4                an ECC encoder programmed to convert said scrambled data into ECC-  
5 encoded data.